



## SEQUENCE LISTING

<110> Frank KARLSEN

<120> DETECTION OF HUMAN PAPILLOMAVIRUS E6 mRNA

<130> B0192.70052US00

<140> PCT/GB03/00030

<141> 2003-01-07

<150> GB 0200258.2

<151> 2002-01-07

<150> GB 0214124.0

<151> 2002-06-19

<160> 387

<170> PatentIn version 3.2

<210> 1

<211> 24

<212> DNA

<213> Human papillomavirus type 16

<400> 1

ccacaggagc gaccagaaa gtta

24

<210> 2

<211> 22

<212> DNA

<213> Human papillomavirus type 16

<400> 2

acggtttggtt gtattgctgt tc

22

<210> 3

<211> 20

<212> DNA

<213> Human papillomavirus type 16

<400> 3

ccacaggagc gaccagaaa

20

<210> 4

<211> 20

<212> DNA

<213> Human papillomavirus type 16

<400> 4

ggtttggttgt attgctgttc

20

<210> 5  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 16

<400> 5  
ctttgctttt cgggatttat gc 22

<210> 6  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 16

<400> 6  
tatgactttg cttttcggga 20

<210> 7  
<211> 23  
<212> DNA  
<213> Human papillomavirus type 16

<400> 7  
cagaggagga ggatgaaata gta 23

<210> 8  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 16

<400> 8  
gcacaaccga agcgtagagt cacac 25

<210> 9  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 16

<400> 9  
tggacaagca gaaccggaca gagc 24

<210> 10  
<211> 22  
<212> DNA  
<213> Human papillomavirus

<400> 10  
cagaggagga ggatgaaata ga 22

<210> 11  
<211> 22  
<212> DNA

<213> Human papillomavirus type 16

<400> 11

gcacaaccga agcgtagagt ca

22

<210> 12

<211> 24

<212> DNA

<213> Human papillomavirus type 16

<400> 12

agcagaaccg gacagagccc atta

24

<210> 13

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 13

acgatgaaat agatggagtt

20

<210> 14

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 14

cacggacaca caaaggacag

20

<210> 15

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 15

agccgaacca caacgtcaca

20

<210> 16

<211> 22

<212> DNA

<213> Human papillomavirus type 18

<400> 16

gaaaacgatg aaatagatgg ag

22

<210> 17

<211> 24

<212> DNA

<213> Human papillomavirus type 18

<400> 17

acaccacgga cacacaaagg acag 24

<210> 18  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 18

<400> 18  
gaaccacaac gtcacacaat g 21

<210> 19  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 19  
ttccggttga ccttctatgt 20

<210> 20  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 20  
ggtcgtctgc tgagctttct 20

<210> 21  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 18

<400> 21  
gcaagacata gaaataacct g 21

<210> 22  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 18

<400> 22  
acccagtgtt agttagtt 18

<210> 23  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 23  
tgcaagacag tattggaact 20

<210> 24  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 31

<400> 24  
ggaaataccc tacgatgaac 20

<210> 25  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 31

<400> 25  
ggacacaacg gtctttgaca 20

<210> 26  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 31

<400> 26  
atagggacga cacaccacac ggag 24

<210> 27  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 31

<400> 27  
ggaaataccc tacgatgaac ta 22

<210> 28  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 31

<400> 28  
ctggacacaa cggctctttga ca 22

<210> 29  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 31

<400> 29  
tagggacgac acaccacacg ga 22

<210> 30  
<211> 20  
<212> DNA

<213> Human papillomavirus type 31

<400> 30

actgacctcc actggttatga

20

<210> 31

<211> 20

<212> DNA

<213> Human papillomavirus type 31

<400> 31

tatctacttg tgtgctctgt

20

<210> 32

<211> 22

<212> DNA

<213> Human papillomavirus type 31

<400> 32

gacaagcaga accggacaca tc

22

<210> 33

<211> 24

<212> DNA

<213> Human papillomavirus type 31

<400> 33

tgacctccac tggttatgagc aatt

24

<210> 34

<211> 26

<212> DNA

<213> Human papillomavirus type 31

<400> 34

tgcgaatatc tacttggtgtg ctctgt

26

<210> 35

<211> 26

<212> DNA

<213> Human papillomavirus type 31

<400> 35

ggacaagcag aaccggacac atccaa

26

<210> 36

<211> 18

<212> DNA

<213> Human papillomavirus type 31

<400> 36

actgacctcc actggttat 18

<210> 37  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 31

<400> 37  
cacgattcca aatgagccca t 21

<210> 38  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 33

<400> 38  
tatacctgaac caactgacct at 22

<210> 39  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 33

<400> 39  
ttgacacata aacgaactg 19

<210> 40  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 33

<400> 40  
cagatggaca agcacaacc 19

<210> 41  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 41  
tcctgaacca actgacctat 20

<210> 42  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 42  
cccataagta gttgctgtat 20

<210> 43  
<211> 23  
<212> DNA  
<213> Human papillomavirus type 33

<400> 43  
ggacaagcac aaccagccac agc 23

<210> 44  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 44  
gacctttgtg tcctcaagaa 20

<210> 45  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 45  
aggtcagttg gttcaggata 20

<210> 46  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 33

<400> 46  
agaaactgca ctgtgacgtg t 21

<210> 47  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 35

<400> 47  
attacagcgg agtgaggtat 20

<210> 48  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 35

<400> 48  
gtctttgctt ttcaactgga 20

<210> 49  
<211> 22  
<212> DNA



<213> Human papillomavirus type 35

<400> 49

tcagaggagg aggaagatac ta

22

<210> 50

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 50

gattatgctc tctgtgaaca

20

<210> 51

<211> 20

<212> DNA

<213> Human papillomavirus

<400> 51

cccgaggcaa ctgacctata

20

<210> 52

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 52

gtcaatgtgt gtgctctgta

20

<210> 53

<211> 20

<212> DNA

<213> Human papillomavirus

<400> 53

atagagaagg ccagccatat

20

<210> 54

<211> 25

<212> DNA

<213> Human papillomavirus type 35

<400> 54

gacaagcaaa accagacacc tccaa

25

<210> 55

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 55

gacaagcaaa accagacacc 20

<210> 56  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 52

<400> 56  
ttgtgtgagg tgctggaaga at 22

<210> 57  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 52

<400> 57  
ccctctcttc taatgttt 18

<210> 58  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 58  
gtgcctacgc tttttatcta 20

<210> 59  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 52

<400> 59  
gtgcctacgc tttttatcta 20

<210> 60  
<211> 22  
<212> DNA  
<213> Human papillomavirus

<400> 60  
ggggtctcca acactctgaa ca 22

<210> 61  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 52

<400> 61  
tgcaaacaag cgatttca 18

<210> 62  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 62  
tcaggcggtg gagacatc 18

<210> 63  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 63  
agcaatcgta agcacact 18

<210> 64  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 64  
tctgtgcatg aaatcgaa 18

<210> 65  
<211> 18  
<212> DNA  
<213> Human papillomavirus

<400> 65  
agcacacttt acatactg 18

<210> 66  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 66  
tgaaatgcgt tgaatgca 18

<210> 67  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 58

<400> 67  
ttgcagcgat ctgaggtata tg 22

<210> 68  
<211> 18  
<212> DNA

<213> Human papillomavirus

<400> 68

tacactgctg gacaacat

18

<210> 69

<211> 18

<212> DNA

<213> Human papillomavirus

<400> 69

tcattcttctg agctgtct

18

<210> 70

<211> 21

<212> DNA

<213> Human papillomavirus

<400> 70

tacactgctg gacaacatgc a

21

<210> 71

<211> 23

<212> DNA

<213> Human papillomavirus

<400> 71

gtcacatcca cagcaacagg tca

23

<210> 72

<211> 20

<212> DNA

<213> Human papillomavirus

<400> 72

gtagggttac attgctatga

20

<210> 73

<211> 22

<212> DNA

<213> Human papillomavirus

<400> 73

gtagggttac attgctatga gc

22

<210> 74

<211> 22

<212> DNA

<213> Human papillomavirus

<400> 74

tgacctgttg ctgtggatgt ga 22

<210> 75  
<211> 19  
<212> DNA  
<213> Human papillomavirus

<400> 75  
tacctgaatc gtccgccat 19

<210> 76  
<211> 18  
<212> DNA  
<213> Human papillomavirus

<400> 76  
atwgtgtgtc ccatctgc 18

<210> 77  
<211> 19  
<212> DNA  
<213> Human papillomavirus

<400> 77  
catgccataa atgtataga 19

<210> 78  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 78  
caccgcaggc accttattaa 20

<210> 79  
<211> 18  
<212> DNA  
<213> Human papillomavirus

<400> 79  
agaattagag aattaaga 18

<210> 80  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 39

<400> 80  
gcagacgacc actacagcaa a 21

<210> 81  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 39

<400> 81  
acaccgagtc cgagtaata 19

<210> 82  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 39

<400> 82  
atagggacgg ggaaccact 19

<210> 83  
<211> 19  
<212> DNA  
<213> Human papillomavirus

<400> 83  
tattactcgg actcgggtgt 19

<210> 84  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 39

<400> 84  
cttgggtttc tcttcgtgtt a 21

<210> 85  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 39

<400> 85  
ggaccacaaa acgggaggac 20

<210> 86  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 39

<400> 86  
gaaatagatg aacccgacca 20

<210> 87  
<211> 20  
<212> DNA

<213> Human papillomavirus

<400> 87

gcacaccacg gacacacaaa

20

<210> 88

<211> 24

<212> DNA

<213> Human papillomavirus type 39

<400> 88

tagccagacg ggatgaacca cagc

24

<210> 89

<211> 21

<212> DNA

<213> Human papillomavirus type 45

<400> 89

aaccattgaa cccagcagaa a

21

<210> 90

<211> 22

<212> DNA

<213> Human papillomavirus type 45

<400> 90

tctttcttgc cgtgcctggc ca

22

<210> 91

<211> 24

<212> DNA

<213> Human papillomavirus type 45

<400> 91

gaaaccattg aaccagcag aaaa

24

<210> 92

<211> 24

<212> DNA

<213> Human papillomavirus type 45

<400> 92

ttgctatact tgtgtttccc tacg

24

<210> 93

<211> 20

<212> DNA

<213> Human papillomavirus type 45

<400> 93

gtaccgaggg cagtgtata 20

<210> 94  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 45

<400> 94  
ggacaaacga agatttcaca 20

<210> 95  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 95  
gttgacctgt tgtgttacca gcaat 25

<210> 96  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 45

<400> 96  
caccacggac acacaaagga caag 24

<210> 97  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 97  
ctgttgacct gttgtgttac ga 22

<210> 98  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 98  
ccacggacac acaaaggaca ag 22

<210> 99  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 45

<400> 99  
gttgacctgt tgtgttacga 20



<210> 100  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 45

<400> 100  
acggacacac aaaggacaag 20

<210> 101  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 101  
gagtcagagg aggaaaacga tg 22

<210> 102  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 102  
aggaaaacga tgaagcagat ggagt 25

<210> 103  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 103  
acaactacca gcccgcagag ccgaa 25

<210> 104  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 51

<400> 104  
ggaggaggat gaagtagata 20

<210> 105  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 51

<400> 105  
gcccattaac atctgctgta 20

<210> 106  
<211> 23  
<212> DNA

<213> Human papillomavirus type 51

<400> 106

agaggaggag gatgaagtag ata

23

<210> 107

<211> 20

<212> DNA

<213> Human papillomavirus type 51

<400> 107

acgggcaaac caggcttagt

20

<210> 108

<211> 20

<212> DNA

<213> Human papillomavirus type 51

<400> 108

gcaggtgttc aagtgtagta

20

<210> 109

<211> 24

<212> DNA

<213> Human papillomavirus type 51

<400> 109

tggcagtgga aagcagtgga gaca

24

<210> 110

<211> 24

<212> DNA

<213> Human papillomavirus type 56

<400> 110

ttgggggtgct ggagacaaac atct

24

<210> 111

<211> 24

<212> DNA

<213> Human papillomavirus type 56

<400> 111

ttcatcctca tcctcatcct ctga

24

<210> 112

<211> 22

<212> DNA

<213> Human papillomavirus type 56

<400> 112

tgggggtgctg gagacaaaca tc 22

<210> 113  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 113  
catcctcatc ctcacacctt ga 22

<210> 114  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 114  
ttgggggtgct ggagacaaac at 22

<210> 115  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 115  
ccacaaactt acactcacao ca 22

<210> 116  
<211> 23  
<212> DNA  
<213> Human papillomavirus type 56

<400> 116  
aaagtaccaa cgctgcaaga cgt 23

<210> 117  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 56

<400> 117  
agaactaaca cctcaaacag aaat 24

<210> 118  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 118  
agtaccaacg ctgcaagacg tt 22

<210> 119  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 119  
ttggacagct cagaggatga gg 22

<210> 120  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 56

<400> 120  
gatttttcctt atgcagtgtg 20

<210> 121  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 56

<400> 121  
gacatctgta gcaccttatt 20

<210> 122  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 122  
gactattcag tgtatggagc 20

<210> 123  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 123  
caactgayct myactggttat ga 22

<210> 124  
<211> 24  
<212> DNA  
<213> Human papillomavirus

<400> 124  
gaamcaactg acctaywctg ctat 24

<210> 125  
<211> 18  
<212> DNA

<213> Human papillomavirus

<400> 125

aagacattat tcagactc

18

<210> 126

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 126

tcacgtcgca gtaactgt

18

<210> 127

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 127

ttgcttgcag tacacaca

18

<210> 128

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 128

tgcagtacac acattcta

18

<210> 129

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 129

gcagtacaca cattctaa

18

<210> 130

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 130

acagttatgc acagagct

18

<210> 131

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 131

atattagaat gtgtgtac 18

<210> 132  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 16

<400> 132  
ttagaatgtg tgtactgc 18

<210> 133  
<211> 17  
<212> DNA  
<213> Human papillomavirus type 16

<400> 133  
aatgtgtgta ctgcaag 17

<210> 134  
<211> 44  
<212> DNA  
<213> Human papillomavirus

<400> 134  
gatgcaaggt cgcatatgag ccacaggagc gacccagaaa gtta 44

<210> 135  
<211> 53  
<212> DNA  
<213> Human papillomavirus

<400> 135  
aattctaata cgactcacta tagggagaag gacggtttgt tgtattgctg ttc 53

<210> 136  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 16

<400> 136  
gatgcaaggt cgcatatgag ccacaggagc gacccagaaa 40

<210> 137  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 16

<400> 137  
aattctaata cgactcacta tagggagaag gggtttggtg tattgctggt c 51

<210> 138  
 <211> 49  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 138  
 aattctaata cgactcacta tagggagaag gtcacgtcgc agtaactgt 49  
  
 <210> 139  
 <211> 49  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 139  
 aattctaata cgactcacta tagggagaag gttgcttgca gtacacaca 49  
  
 <210> 140  
 <211> 49  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 140  
 aattctaata cgactcacta tagggagaag gtgcagtaca cacattcta 49  
  
 <210> 141  
 <211> 49  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 141  
 aattctaata cgactcacta tagggagaag ggcagtacac acattctaa 49  
  
 <210> 142  
 <211> 38  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 142  
 gatgcaaggc cgcatatgag acagttatgc acagagct 38  
  
 <210> 143  
 <211> 38  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 143  
 gatgcaaggc cgcatatgag atattagaat gtgtgtac 38  
  
 <210> 144  
 <211> 38  
 <212> DNA

<213> Human papillomavirus type 16

<400> 144

gatgcaaggt cgcatatgag ttagaatgtg tgtactgc

38

<210> 145

<211> 38

<212> DNA

<213> Human papillomavirus type 16

<400> 145

gatgcaaggt cgcatatgag gaatgtgtgt actgcaag

38

<210> 146

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 146

acagttatgc acagagct

18

<210> 147

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 147

atattagaat gtgtgtac

18

<210> 148

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 148

ttagaatgtg tgtactgc

18

<210> 149

<211> 18

<212> DNA

<213> Human papillomavirus type 16

<400> 149

gaatgtgtgt actgcaag

18

<210> 150

<211> 22

<212> DNA

<213> Human papillomavirus type 16

<400> 150



ctttgctttt cgggatttat gc 22

<210> 151  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 16

<400> 151  
tatgactttg cttttcggga 20

<210> 152  
<211> 32  
<212> DNA  
<213> Human papillomavirus type 16

<400> 152  
cgcatgtatg actttgcttt tcgggacatg cg 32

<210> 153  
<211> 32  
<212> DNA  
<213> Human papillomavirus type 16

<400> 153  
ccagcttatg actttgcttt tcgggaagct gg 32

<210> 154  
<211> 30  
<212> DNA  
<213> Human papillomavirus type 16

<400> 154  
cacgctatga ctttgctttt cgggagcgtg 30

<210> 155  
<211> 32  
<212> DNA  
<213> Human papillomavirus type 16

<400> 155  
cgatcgtatg actttgcttt tcgggacgat cg 32

<210> 156  
<211> 43  
<212> DNA  
<213> Human papillomavirus type 16

<400> 156  
gatgcaagggt cgcatatgag cagaggagga ggatgaaata gta 43

<210> 157  
 <211> 56  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 157  
 aattctaata cgactcacta tagggagaag ggcacaaccg aagcgtagag tcacac 56  
  
 <210> 158  
 <211> 24  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 158  
 tggacaagca gaaccggaca gagc 24  
  
 <210> 159  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 159  
 gatgcaaggc cgcatatgag cagaggagga ggatgaaata ga 42  
  
 <210> 160  
 <211> 53  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 160  
 aattctaata cgactcacta tagggagaag ggcacaaccg aagcgtagag tca 53  
  
 <210> 161  
 <211> 24  
 <212> DNA  
 <213> Human papillomavirus type 16  
  
 <400> 161  
 agcagaaccg gacagagccc atta 24  
  
 <210> 162  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 18  
  
 <400> 162  
 gatgcaaggc cgcatatgag acgatgaaat agatggagtt 40  
  
 <210> 163  
 <211> 51  
 <212> DNA

<213> Human papillomavirus type 18

<400> 163

aattctaata cgactcacta tagggagaag gcacggacac acaaaggaca g 51

<210> 164

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 164

agccgaacca caacgtcaca 20

<210> 165

<211> 42

<212> DNA

<213> Human papillomavirus type 18

<400> 165

gatgcaaggt cgcatatgag gaaaacgatg aaatagatgg ag 42

<210> 166

<211> 55

<212> DNA

<213> Human papillomavirus type 18

<400> 166

aattctaata cgactcacta tagggagaag gacaccacgg acacacaaag gacag 55

<210> 167

<211> 21

<212> DNA

<213> Human papillomavirus type 18

<400> 167

gaaccacaac gtcacacaat g 21

<210> 168

<211> 33

<212> DNA

<213> Human papillomavirus type 18

<400> 168

cgcatggaac cacaacgtca cacaatgcat gcg 33

<210> 169

<211> 33

<212> DNA

<213> Human papillomavirus type 18

<400> 169

ccgtcgggaac cacaacgtca cacaatgcga cgg 33

<210> 170  
<211> 33  
<212> DNA  
<213> Human papillomavirus type 18

<400> 170  
cggaccgaac cacaacgtca cacaatgggt ccg 33

<210> 171  
<211> 33  
<212> DNA  
<213> Human papillomavirus type 18

<400> 171  
cgatcgggaac cacaacgtca cacaatgcga tcg 33

<210> 172  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 18

<400> 172  
gatgcaagggt cgcatatgag ttccggttga ctttctatgt 40

<210> 173  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 18

<400> 173  
aattctaata cgactcacta tagggagaag gggtcgtctg ctgagctttc t 51

<210> 174  
<211> 41  
<212> DNA  
<213> Human papillomavirus type 18

<400> 174  
gatgcaagggt cgcatatgag gcaagacata gaaataacct g 41

<210> 175  
<211> 49  
<212> DNA  
<213> Human papillomavirus type 18

<400> 175  
aattctaata cgactcacta tagggagaag gaccagtggt tagttagtt 49

<210> 176  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 176  
tgcaagacag tattggaact 20

<210> 177  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 31

<400> 177  
gatgcaagggt cgcatatgag ggaaataccc tacgatgaac 40

<210> 178  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 31 .

<400> 178  
aattctaata cgactcacta tagggagaag gggacacaac ggtctttgac a 51

<210> 179  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 31

<400> 179  
atagggacga cacaccacac ggag 24

<210> 180  
<211> 42  
<212> DNA  
<213> Human papillomavirus type 31

<400> 180  
gatgcaagggt cgcatatgag ggaaataccc tacgatgaac ta 42

<210> 181  
<211> 53  
<212> DNA  
<213> Human papillomavirus type 31

<400> 181  
aattctaata cgactcacta tagggagaag gctggacaca acggtctttg aca 53

<210> 182  
<211> 22  
<212> DNA

<213> Human papillomavirus type 31  
 <400> 182  
 tagggacgac acaccacacg ga 22

<210> 183  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 183  
 gatgcaagggt cgcatatgag actgacctcc actggttatga 40

<210> 184  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 184  
 aattctaata cgactcacta tagggagaag gatatctactt gtgtgctctg t 51

<210> 185  
 <211> 22  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 185  
 gacaagcaga accggacaca tc 22

<210> 186  
 <211> 44  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 186  
 gatgcaagggt cgcatatgag tgacctccac tggttatgagc aatt 44

<210> 187  
 <211> 57  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 187  
 aattctaata cgactcacta tagggagaag gtgcgaatat ctacttgtgt gctctgt 57

<210> 188  
 <211> 26  
 <212> DNA  
 <213> Human papillomavirus type 31  
 <400> 188

ggacaagcag aaccggacac atccaa 26

<210> 189  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 31

<400> 189  
ccgaagggga caagcagaac cggacacatc caaccttcgg 40

<210> 190  
<211> 38  
<212> DNA  
<213> Human papillomavirus type 31

<400> 190  
ccgtcgggac aagcagaacc ggacacatcc aacgacgg 38

<210> 191  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 31  
  
<400> 191  
cacgtcggga caagcagaac cggacacatc caacgacgtg 40

<210> 192  
<211> 38  
<212> DNA  
<213> Human papillomavirus type 31  
  
<400> 192  
cgcagcggac aagcagaacc ggacacatcc aagctgcg 38

<210> 193  
<211> 38  
<212> DNA  
<213> Human papillomavirus type 31  
  
<400> 193  
cgatcgggac aagcagaacc ggacacatcc aacgatcg 38

<210> 194  
<211> 38  
<212> DNA  
<213> Human papillomavirus type 31  
  
<400> 194  
gatgcaaggc cgcatatgag actgacctcc actgttat 38

<210> 195  
 <211> 52  
 <212> DNA  
 <213> Human papillomavirus type 31  
  
 <400> 195  
 aattctaata cgactcacta tagggagaag gcacgattcc aaatgagccc at 52  
  
 <210> 196  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 31  
  
 <400> 196  
 gatgcaagggt cgcatatgag tatkctgaac caactgacct at 42  
  
 <210> 197  
 <211> 50  
 <212> DNA  
 <213> Human papillomavirus type 33  
  
 <400> 197  
 aattctaata cgactcacta tagggagaag gttgacacat aaacgaactg 50  
  
 <210> 198  
 <211> 19  
 <212> DNA  
 <213> Human papillomavirus type 33  
  
 <400> 198  
 cagatggaca agcacaacc 19  
  
 <210> 199  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 33  
  
 <400> 199  
 gatgcaagggt cgcatatgag tcctgaacca actgacctat 40  
  
 <210> 200  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 33  
  
 <400> 200  
 aattctaata cgactcacta tagggagaag gcccataagt agttgctgta t 51  
  
 <210> 201  
 <211> 23  
 <212> DNA



<213> Human papillomavirus type 33

<400> 201

ggacaagcac aaccagccac agc

23

<210> 202

<211> 35

<212> DNA

<213> Human papillomavirus type 33

<400> 202

ccaagcggac aagcacaacc agccacagcg cttgg

35

<210> 203

<211> 37

<212> DNA

<213> Human papillomavirus type 33

<400> 203

ccaagcggga caagcacaac cagccacagc cgcttgg

37

<210> 204

<211> 35

<212> DNA

<213> Human papillomavirus type 33

<400> 204

cccagcggac aagcacaacc agccacagcg ctggg

35

<210> 205

<211> 37

<212> DNA

<213> Human papillomavirus type 33

<400> 205

ccaaagcggga caagcacaac cagccacagc gctttgg

37

<210> 206

<211> 33

<212> DNA

<213> Human papillomavirus type 33

<400> 206

cctgcggaca agcacaacca gccacagcgc agg

33

<210> 207

<211> 35

<212> DNA

<213> Human papillomavirus type 33

<400> 207

cgatcgggac aagcacaacc agccacagcc gatcg 35

<210> 208  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 33

<400> 208  
gatgcaagggt cgcatatgag gacctttgtg tcctcaagaa 40

<210> 209  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 33

<400> 209  
aattctaata cgactcacta tagggagaag gaggtcagtt ggttcaggat a 51

<210> 210  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 33

<400> 210  
agaaactgca ctgtgacgtg t 21

<210> 211  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 35

<400> 211  
gatgcaagggt cgcatatgag attacagcgg agtgaggtat 40

<210> 212  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 35

<400> 212  
aattctaata cgactcacta tagggagaag ggtctttgct tttcaactgg a 51

<210> 213  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 35

<400> 213  
atagagaagg ccagccatat 20

<210> 214  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 214  
 gatgcaaggt cgcatatgag tcagaggagg aggaagatac ta 42  
  
 <210> 215  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 215  
 aattctaata cgactcacta tagggagaag ggattatgct ctctgtgaac a 51  
  
 <210> 216  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 216  
 gatgcaaggt cgcatatgag cccgaggcaa ctgacctata 40  
  
 <210> 217  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 217  
 aattctaata cgactcacta tagggagaag ggtcaatgtg tgtgctctgt a 51  
  
 <210> 218  
 <211> 25  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 218  
 gacaagcaaa accagacacc tccaa 25  
  
 <210> 219  
 <211> 20  
 <212> DNA  
 <213> Human papillomavirus type 35  
  
 <400> 219  
 gacaagcaaa accagacacc 20  
  
 <210> 220  
 <211> 42  
 <212> DNA

<213> Human papillomavirus type 52  
  
 <400> 220  
 gatgcaagggt cgcatatgag ttgtgtgagg tgctggaaga at 42  
  
 <210> 221  
 <211> 49  
 <212> DNA  
 <213> Human papillomavirus type 52  
  
 <400> 221  
 aattctaata cgactcacta tagggagaag gccctctctt ctaatgttt 49  
  
 <210> 222  
 <211> 20  
 <212> DNA  
 <213> Human papillomavirus type 52  
  
 <400> 222  
 gtgcctacgc tttttatcta 20  
  
 <210> 223  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 52  
  
 <400> 223  
 gatgcaagggt cgcatatgag gtgcctacgc tttttatcta 40  
  
 <210> 224  
 <211> 53  
 <212> DNA  
 <213> Human papillomavirus type 52  
  
 <400> 224  
 aattctaata cgactcacta tagggagaag gggggtctcc aacactctga aca 53  
  
 <210> 225  
 <211> 18  
 <212> DNA  
 <213> Human papillomavirus type 52  
  
 <400> 225  
 tgcaaacaag cgatttca 18  
  
 <210> 226  
 <211> 38  
 <212> DNA  
 <213> Human papillomavirus type 58  
  
 <400> 226

gatgcaaggt cgcatatgag tcaggcgttg gagacatc 38

<210> 227  
<211> 49  
<212> DNA  
<213> Human papillomavirus type 58

<400> 227  
aattctaata cgactcacta tagggagaag gagcaatcgt aagcacact 49

<210> 228  
<211> 38  
<212> DNA  
<213> Human papillomavirus type 58

<400> 228  
gatgcaaggt cgcatatgag tctgtgcatg aaatcgaa 38

<210> 229  
<211> 49  
<212> DNA  
<213> Human papillomavirus type 58

<400> 229  
aattctaata cgactcacta tagggagaag gagcacactt tacatactg 49

<210> 230  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 230  
tgaaatgcgt tgaatgca 18

<210> 231  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 58

<400> 231  
ttgcagcgat ctgaggtata tg 22

<210> 232  
<211> 38  
<212> DNA  
<213> Human papillomavirus

<400> 232  
gatgcaaggt cgcatatgag tacactgctg gacaacat 38

<210> 233  
<211> 49  
<212> DNA  
<213> Human papillomavirus

<400> 233  
aattctaata cgactcacta tagggagaag gtcattcttct gagctgtct

49

<210> 234  
<211> 41  
<212> DNA  
<213> Human papillomavirus

<400> 234  
gatgcaaggt cgcattatgag tacactgctg gacaacatgc a

41

<210> 235  
<211> 54  
<212> DNA  
<213> Human papillomavirus

<400> 235  
aattctaata cgactcacta tagggagaag ggccacatcc acagcaacag gtca

54

<210> 236  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 236  
gtagggttac attgctatga

20

<210> 237  
<211> 22  
<212> DNA  
<213> Human papillomavirus

<400> 237  
gtagggttac attgctatga gc

22

<210> 238  
<211> 42  
<212> DNA  
<213> Human papillomavirus

<400> 238  
gatgcaaggt cgcattatgag tgacctgttg ctgtggatgt ga

42

<210> 239  
<211> 50  
<212> DNA

<213> Human papillomavirus

<400> 239

aattctaata cgactcacta tagggagaag gtacctgaat cgtccgccat

50

<210> 240

<211> 18

<212> DNA

<213> Human papillomavirus

<400> 240

atwgtgtgtc ccatctgc

18

<210> 241

<211> 39

<212> DNA

<213> Human papillomavirus

<400> 241

gatgcaaggt cgcatatgag catgccataa atgtataga

39

<210> 242

<211> 51

<212> DNA

<213> Human papillomavirus

<400> 242

aattctaata cgactcacta tagggagaag gcaccgcagg caccttatta a

51

<210> 243

<211> 18

<212> DNA

<213> Human papillomavirus

<400> 243

agaattagag aattaaga

18

<210> 244

<211> 41

<212> DNA

<213> Human papillomavirus type 39

<400> 244

gatgcaaggt cgcatatgag gcagacgacc actacagcaa a

41

<210> 245

<211> 50

<212> DNA

<213> Human papillomavirus type 39

<400> 245

aattctaata cgactcacta tagggagaag gacaccgagt ccgagtaata 50

<210> 246  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 39

<400> 246  
atagggacgg ggaaccact 19

<210> 247  
<211> 39  
<212> DNA  
<213> Human papillomavirus type 39

<400> 247  
gatgcaaggt cgcatatgag tattactcgg actcgggtgt 39

<210> 248  
<211> 52  
<212> DNA  
<213> Human papillomavirus type 39

<400> 248  
aattctaata cgactcacta tagggagaag gcttgggttt ctcttcgtgt ta 52

<210> 249  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 39

<400> 249  
ggaccacaaa acgggaggac 20

<210> 250  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 39

<400> 250  
gatgcaaggt cgcatatgag gaaatagatg aacccgacca 40

<210> 251  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 39

<400> 251  
aattctaata cgactcacta tagggagaag ggcacaccac ggacacacaa a 51



<210> 252  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 39

<400> 252  
tagccagacg ggatgaacca cagc 24

<210> 253  
<211> 41  
<212> DNA  
<213> Human papillomavirus type 45

<400> 253  
gatgcaaggt cgcatatgag aaccattgaa cccagcagaa a 41

<210> 254  
<211> 53  
<212> DNA  
<213> Human papillomavirus type 45

<400> 254  
aattctaata cgactcacta tagggagaag gtctttcttg ccgtgcctgg tca 53

<210> 255  
<211> 44  
<212> DNA  
<213> Human papillomavirus type 45

<400> 255  
gatgcaaggt cgcatatgag gaaaccattg aaccagcag aaaa 44

<210> 256  
<211> 55  
<212> DNA  
<213> Human papillomavirus type 45

<400> 256  
aattctaata cgactcacta tagggagaag gttgctatac ttgtgtttcc ctacg 55

<210> 257  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 45

<400> 257  
gtaccgaggg cagtgtata 20

<210> 258  
<211> 20  
<212> DNA

<213> Human papillomavirus type 45  
  
 <400> 258  
 ggacaaacga agatttcaca 20  
  
 <210> 259  
 <211> 45  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 259  
 gatgcaagggt cgcatatgag gttgacctgt tgtgttacca gcaat 45  
  
 <210> 260  
 <211> 55  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 260  
 aattctaata cgactcacta tagggagaag gcaccacgga cacacaaagg acaag 55  
  
 <210> 261  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 261  
 gatgcaagggt cgcatatgag ctgttgacct gttgtgttac ga 42  
  
 <210> 262  
 <211> 53  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 262  
 aattctaata cgactcacta tagggagaag gccacggaca cacaaaggac aag 53  
  
 <210> 263  
 <211> 40  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 263  
 gatgcaagggt cgcatatgag gttgacctgt tgtgttacga 40  
  
 <210> 264  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 45  
  
 <400> 264

aattctaata cgactcacta tagggagaag gacggacaca caaaggacaa g 51

<210> 265  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 265  
gagtcagagg aggaaaacga tg 22

<210> 266  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 266  
aggaaaacga tgaagcagat ggagt 25

<210> 267  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 267  
acaactacca gcccgacgag ccgaa 25

<210> 268  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 51

<400> 268  
gatgcaaggt cgcatatgag ggaggaggat gaagtagata 40

<210> 269  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 51

<400> 269  
aattctaata cgactcacta tagggagaag ggcccattaa catctgctgt a 51

<210> 270  
<211> 43  
<212> DNA  
<213> Human papillomavirus type 51

<400> 270  
gatgcaaggt cgcatatgag agaggaggag gatgaagtag ata 43

<210> 271  
 <211> 51  
 <212> DNA  
 <213> Human papillomavirus type 51  
  
 <400> 271  
 aattctaata cgactcacta tagggagaag gacgggcaaa ccaggcttag t 51  
  
 <210> 272  
 <211> 20  
 <212> DNA  
 <213> Human papillomavirus type 51  
  
 <400> 272  
 gcagggtgttc aagtgtagta 20  
  
 <210> 273  
 <211> 24  
 <212> DNA  
 <213> Human papillomavirus type 51  
  
 <400> 273  
 tggcagtgga aagcagtgga gaca 24  
  
 <210> 274  
 <211> 44  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 274  
 gatgcaagggt cgcatatgag ttgggggtgct ggagacaaac atct 44  
  
 <210> 275  
 <211> 55  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 275  
 aattctaata cgactcacta tagggagaag gttcatcctc atcctcatcc tctga 55  
  
 <210> 276  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 276  
 gatgcaagggt cgcatatgag tgggggtgctg gagacaaaca tc 42  
  
 <210> 277  
 <211> 53  
 <212> DNA

<213> Human papillomavirus type 56  
  
 <400> 277  
 aattctaata cgactcacta tagggagaag gcatcctcat cctcatcctc tga 53  
  
 <210> 278  
 <211> 42  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 278  
 gatgcaagggt cgcatatgag ttgggggtgct ggagacaaac at 42  
  
 <210> 279  
 <211> 53  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 279  
 aattctaata cgactcacta tagggagaag gccacaaact tacactcaca aca 53  
  
 <210> 280  
 <211> 23  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 280  
 aaagtaccaa cgctgcaaga cgt 23  
  
 <210> 281  
 <211> 24  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 281  
 agaactaaca cctcaaacag aaat 24  
  
 <210> 282  
 <211> 22  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 282  
 agtaccaacg ctgcaagacg tt 22  
  
 <210> 283  
 <211> 22  
 <212> DNA  
 <213> Human papillomavirus type 56  
  
 <400> 283

ttggacagct cagaggatga gg 22

<210> 284  
<211> 40  
<212> DNA  
<213> Human papillomavirus type 56

<400> 284  
gatgcaaggc cgcatatgag gattttcctt atgcagtgtg 40

<210> 285  
<211> 51  
<212> DNA  
<213> Human papillomavirus type 56

<400> 285  
aattctaata cgactcacta tagggagaag ggacatctgt agcaccttat t 51

<210> 286  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 56

<400> 286  
gactattcag tgtatggagc 20

<210> 287  
<211> 22  
<212> DNA  
<213> Human papillomavirus

<400> 287  
caactgayct myactgttat ga 22

<210> 288  
<211> 34  
<212> DNA  
<213> Human papillomavirus

<400> 288  
cgcatgcaac tgayctmyac tgttatgaca tgcg 34

<210> 289  
<211> 34  
<212> DNA  
<213> Human papillomavirus

<400> 289  
ccgtcgcaac tgayctmyac tgttatgacg acgg 34

<210> 290  
<211> 34  
<212> DNA  
<213> Human papillomavirus

<400> 290  
ccaccccaac tgayctmyac tgttatgagg gtgg 34

<210> 291  
<211> 34  
<212> DNA  
<213> Human papillomavirus

<400> 291  
cgatcgcaac tgayctmyac tgttatgacg atcg 34

<210> 292  
<211> 24  
<212> DNA  
<213> Human papillomavirus

<400> 292  
gaamcaactg acctaywctg ctat 24

<210> 293  
<211> 36  
<212> DNA  
<213> Human papillomavirus

<400> 293  
ccaagcgaam caactgacct aywctgctat gcttgg 36

<210> 294  
<211> 38  
<212> DNA  
<213> Human papillomavirus

<400> 294  
ccaagccgaa mcaactgacc taywctgcta tggcttgg 38

<210> 295  
<211> 38  
<212> DNA  
<213> Human papillomavirus

<400> 295  
ccaagcggaa mcaactgacc taywctgcta tcgcttgg 38

<210> 296  
<211> 36  
<212> DNA

|       |   |    |
|-------|---|----|
| <213> | Human papillomavirus                    |    |
| <400> | 296                                     |    |
|       | ccagcggaam caactgacct aywctgctat cgctgg | 36 |
| <210> | 297                                     |    |
| <211> | 36                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 297                                     |    |
|       | cgatcggaam caactgacct aywctgctat cgatcg | 36 |
| <210> | 298                                     |    |
| <211> | 18                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 298                                     |    |
|       | aagacattat tcagactc                     | 18 |
| <210> | 299                                     |    |
| <211> | 30                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 299                                     |    |
|       | ccaagcaaga cattattcag actcgcttgg        | 30 |
| <210> | 300                                     |    |
| <211> | 30                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 300                                     |    |
|       | cgcatgaaga cattattcag actccatgcg        | 30 |
| <210> | 301                                     |    |
| <211> | 30                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 301                                     |    |
|       | cccagcaaga cattattcag actcgctggg        | 30 |
| <210> | 302                                     |    |
| <211> | 30                                      |    |
| <212> | DNA                                     |    |
| <213> | Human papillomavirus                    |    |
| <400> | 302                                     |    |



cgatcgaaga cattattcag actccgatcg 30

<210> 303  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 16

<400> 303  
ccacaggagc gacccagaaa gtta 24

<210> 304  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 16

<400> 304  
acggtttggt gtattgctgt tc 22

<210> 305  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 16

<400> 305  
ccacaggagc gacccagaaa 20

<210> 306  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 16

<400> 306  
ggtttggtgt attgctgttc 20

<210> 307  
<211> 23  
<212> DNA  
<213> Human papillomavirus type 16

<400> 307  
cagaggagga ggatgaaata gta 23

<210> 308  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 16

<400> 308  
gcacaaccga agcgtagagt cacac 25

<210> 309  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 16

<400> 309  
cagaggagga ggatgaaata ga 22

<210> 310  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 16

<400> 310  
gcacaaccga agcgtagagt ca 22

<210> 311  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 311  
acgatgaaat agatggagtt 20

<210> 312  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 312  
cacggacaca caaaggacag 20

<210> 313  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 18

<400> 313  
gaaaacgatg aaatagatgg ag 22

<210> 314  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 18

<400> 314  
acaccacgga cacacaaagg acag 24

<210> 315  
<211> 20  
<212> DNA

<213> Human papillomavirus type 18

<400> 315

ttccggttga ccttctatgt

20

<210> 316

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 316

ggtcgtctgc tgagctttct

20

<210> 317

<211> 21

<212> DNA

<213> Human papillomavirus type 18

<400> 317

gcaagacata gaaataacct g

21

<210> 318

<211> 18

<212> DNA

<213> Human papillomavirus type 18

<400> 318

acccagtgtt agttagtt

18

<210> 319

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 319

ggaaataccc tacgatgaac

20

<210> 320

<211> 20

<212> DNA

<213> Human papillomavirus type 18

<400> 320

ggacacaacg gtctttgaca

20

<210> 321

<211> 22

<212> DNA

<213> Human papillomavirus type 18

<400> 321

ggaaataccc tacgatgaac ta 22

<210> 322  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 18

<400> 322  
ctggacacaa cggctcttga ca 22

<210> 323  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 323  
actgacctcc actggttatga 20

<210> 324  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 18

<400> 324  
tatctacttg tgtgctctgt 20

<210> 325  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 18

<400> 325  
tgacctccac tggttatgagc aatt 24

<210> 326  
<211> 26  
<212> DNA  
<213> Human papillomavirus type 18

<400> 326  
tgatgaatgc tacttggtgtg ctctgt 26

<210> 327  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 18

<400> 327  
actgacctcc actggttat 18

<210> 328  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 18

<400> 328  
cacgattcca aatgagccca t 21

<210> 329  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 33

<400> 329  
tattcctgaac caactgacct at 22

<210> 330  
<211> 19  
<212> DNA  
<213> Human papillomavirus type 33

<400> 330  
ttgacacata aacgaactg 19

<210> 331  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 331  
tcctgaacca actgacctat 20

<210> 332  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 332  
cccataagta gttgctgtat 20

<210> 333  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 33

<400> 333  
gacctttgtg tcctcaagaa 20

<210> 334  
<211> 20  
<212> DNA

<213> Human papillomavirus type 33

<400> 334

aggtcagttg gttcaggata

20

<210> 335

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 335

attacagcgg agtgaggat

20

<210> 336

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 336

gtctttgctt ttcaactgga

20

<210> 337

<211> 22

<212> DNA

<213> Human papillomavirus type 35

<400> 337

tcagaggagg aggaagatac ta

22

<210> 338

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 338

gattatgctc tctgtgaaca

20

<210> 339

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 339

cccgaggcaa ctgacctata

20

<210> 340

<211> 20

<212> DNA

<213> Human papillomavirus type 35

<400> 340

gtcaatgtgt gtgctctgta 20

<210> 341  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 52

<400> 341  
ttgtgtgagg tgctggaaga at 22

<210> 342  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 52

<400> 342  
ccctctcttc taatgttt 18

<210> 343  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 52

<400> 343  
gtgcctacgc tttttatcta 20

<210> 344  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 35

<400> 344  
ggggtctcca acactctgaa ca 22

<210> 345  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 345  
tcaggcggtg gagacatc 18

<210> 346  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 346  
agcaatcgta agcacact 18

<210> 347  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 347  
tctgtgcatg aaatcgaa 18

<210> 348  
<211> 18  
<212> DNA  
<213> Human papillomavirus type 58

<400> 348  
agcacacttt acatactg 18

<210> 349  
<211> 18  
<212> DNA  
<213> Human papillomavirus

<400> 349  
tacactgctg gacaacat 18

<210> 350  
<211> 18  
<212> DNA  
<213> Human papillomavirus

<400> 350  
tcattcttctg agctgtct 18

<210> 351  
<211> 21  
<212> DNA  
<213> Human papillomavirus

<400> 351  
tacactgctg gacaacatgc a 21

<210> 352  
<211> 23  
<212> DNA  
<213> Human papillomavirus

<400> 352  
gtcacatcca cagcaacagg tca 23

<210> 353  
<211> 22  
<212> DNA



<213> Human papillomavirus

<400> 353

tgacctgttg ctgtggatgt ga

22

<210> 354

<211> 19

<212> DNA

<213> Human papillomavirus

<400> 354

tacctgaatc gtccgccat

19

<210> 355

<211> 19

<212> DNA

<213> Human papillomavirus

<400> 355

catgccataa atgtataga

19

<210> 356

<211> 20

<212> DNA

<213> Human papillomavirus

<400> 356

caccgcaggc accttattaa

20

<210> 357

<211> 21

<212> DNA

<213> Human papillomavirus

<400> 357

gcagacgacc actacagcaa a

21

<210> 358

<211> 19

<212> DNA

<213> Human papillomavirus

<400> 358

acaccgagtc cgagtaata

19

<210> 359

<211> 19

<212> DNA

<213> Human papillomavirus

<400> 359

tattactcgg actcgggtgt 19

<210> 360  
<211> 21  
<212> DNA  
<213> Human papillomavirus

<400> 360  
cttgggtttc tcttcgtgtt a 21

<210> 361  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 361  
gaaatagatg aacccgacca 20

<210> 362  
<211> 20  
<212> DNA  
<213> Human papillomavirus

<400> 362  
gcacaccacg gacacacaaa 20

<210> 363  
<211> 21  
<212> DNA  
<213> Human papillomavirus type 45

<400> 363  
aaccattgaa cccagcagaa a 21

<210> 364  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 364  
tctttcttgc cgtgcctggt ca 22

<210> 365  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 45

<400> 365  
gaaaccattg aaccagcag aaaa 24

<210> 366  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 45

<400> 366  
ttgctatact tgtgtttccc tacg 24

<210> 367  
<211> 25  
<212> DNA  
<213> Human papillomavirus type 45

<400> 367  
gttgacctgt tgtgttacca gcaat 25

<210> 368  
<211> 24  
<212> DNA  
<213> Human papillomavirus type 45

<400> 368  
caccacggac acacaaagga caag 24

<210> 369  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 369  
ctgttgacct gttgtgttac ga 22

<210> 370  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 45

<400> 370  
ccacggacac acaaaggaca ag 22

<210> 371  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 45

<400> 371  
gttgacctgt tgtgttacga 20

<210> 372  
<211> 20  
<212> DNA

<213> Human papillomavirus type 45

<400> 372

acggacacac aaaggacaag

20

<210> 373

<211> 20

<212> DNA

<213> Human papillomavirus type 51

<400> 373

ggaggaggat gaagtagata

20

<210> 374

<211> 20

<212> DNA

<213> Human papillomavirus type 51

<400> 374

gcccattaac atctgctgta

20

<210> 375

<211> 23

<212> DNA

<213> Human papillomavirus type 51

<400> 375

agaggaggag gatgaagtag ata

23

<210> 376

<211> 20

<212> DNA

<213> Human papillomavirus type 51

<400> 376

acgggcaaac caggcttagt

20

<210> 377

<211> 24

<212> DNA

<213> Human papillomavirus type 56

<400> 377

ttggggtgct ggagacaaac atct

24

<210> 378

<211> 24

<212> DNA

<213> Human papillomavirus type 56

<400> 378

ttcatcctca tcctcatcct ctga 24

<210> 379  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 379  
tgggggtgctg gagacaaaca tc 22

<210> 380  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 380  
catcctcatc ctcacacctc ga 22

<210> 381  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 381  
ttgggggtgct ggagacaaac at 22

<210> 382  
<211> 22  
<212> DNA  
<213> Human papillomavirus type 56

<400> 382  
ccacaaactt acactcacao ca 22

<210> 383  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 56

<400> 383  
gatttttcctt atgcagtgtg 20

<210> 384  
<211> 20  
<212> DNA  
<213> Human papillomavirus type 56

<400> 384  
gacatctgta gcaccttatt 20

<210> 385  
<211> 31  
<212> DNA  
<213> Artificial

<220>  
<223> T7 promoter sequence

<400> 385  
aattctaata cgactcacta tagggagaag g

31

<210> 386  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> T7 promoter sequence

<400> 386  
aattctaata cgactcacta taggg

25

<210> 387  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> capable of hybridising to generic ECL (RTM) probe

<400> 387  
gatgcaaggt cgcatatgag

20